

Application Number 10/693,011
Preliminary Amendment

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A programmer for an implantable medical device, the programmer comprising:

an internal antenna mounted on a first circuit board; and
a display device mounted on a second circuit board; ~~and~~,
wherein the first circuit board includes a substantially contiguous ground plane layer interrupted by a plurality of gaps.

Claim 2 (Currently Amended): The programmer of claim 1, wherein the gaps divide the ground plane layer into a plurality of interconnected conductive ground plane regions.

Claim 3 (Original): The programmer of claim 1, wherein the gaps divide the adjacent ground plane regions to disrupt flow of eddy currents within the ground plane layer.

Claim 4 (Original): The programmer of claim 1, wherein each of the gaps extends outward from a central region of the ground plane layer.

Claim 5 (Original): The programmer of claim 1, wherein the first circuit board includes an electrostatic discharge layer defining a peripheral conductive layer and a central aperture.

Claim 6 (Original): The programmer of claim 5, wherein the internal antenna defines an aperture, and the central aperture of the electrostatic discharge layer substantially approximates a size and shape of the aperture of the antenna.

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Claim 7 (Original): The programmer of claim 5, wherein the electrostatic discharge layer is a first electrostatic discharge layer formed on a first side of the ground plane layer, the programmer further comprising a second electrostatic discharge layer formed on second side of the ground plane layer.

Claim 8 (Original): The programmer of claim 7, wherein the second electrostatic discharge layer defines a second central aperture that substantially approximates a size and shape of the central aperture of the first electrostatic discharge layer.

Claim 9 (Original): The programmer of claim 1, wherein the antenna comprises a loop-like antenna shape that defines an aperture.

Claim 10 (Original): The programmer of claim 1, further comprising a battery bay formed within the aperture of the antenna.

Claim 11 (Original): A programmer for an implantable medical device, the programmer comprising:

- an internal antenna mounted on a first circuit board; and
- a display device mounted on a second circuit board,

wherein the antenna has a loop-like structure and defines a first aperture, and the first circuit board includes at least one signal plane with a electrostatic discharge layer defining a second aperture in substantially overlapping alignment with the first aperture.

Claim 12 (Currently Amended): The programmer of claim 11, further comprising a substantially contiguous ground plane layer interrupted by a plurality of gaps.

Claim 13 (Currently Amended): The programmer of claim 12, wherein the gaps divide the ground plane layer into a plurality of interconnected conductive ground plane regions.

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Claim 14 (Original): The programmer of claim 12, wherein the gaps divide the adjacent ground plane regions to disrupt flow of eddy currents within the ground plane layer.

Claim 15 (Original): The programmer of claim 12, wherein each of the gaps extends outward from a central region of the ground plane layer.

Claim 16 (Original): The programmer of claim 11, wherein the electrostatic discharge layer substantially approximates a size and shape of the aperture of the antenna.

Claim 17 (Original): The programmer of claim 11, wherein the electrostatic discharge layer is a first electrostatic discharge layer formed on a first side of the ground plane layer, the programmer further comprising a second electrostatic discharge layer formed on second side of the ground plane layer.

Claim 18 (Original): The programmer of claim 17, wherein the second electrostatic discharge layer defines a second central aperture that substantially approximates a size and shape of the central aperture of the first electrostatic discharge layer.

Claim 19 (Original): The programmer of claim 11, further comprising a battery bay formed within the aperture of the antenna.

Claim 20 (Original): The programmer of claim 11, wherein the first circuit board includes telemetry circuitry for communication with a medical device via the antenna.

Claim 21 (New): The programmer of claim 1, wherein each of the gaps has a width in a range of approximately 0.2 to approximately 3.0 mm.

Claim 22 (New): The programmer of claim 12, wherein each of the gaps has a width in a range of approximately 0.2 to approximately 3.0 mm.